

Scientific Water Treatment Chemicals & Equipment

## DEARBORN AQUA-SERV of Wilson, North Carolina, Inc.

Wilson, North Carolina 27893 P. O. Box 3897 Phone (919) 291-0672

February 27, 1979

Mr. Lanier, Utilities Superintendent Camp Lejeune, MCB Base Maintenance Department Utilities Division Camp Lejeune, North Carolina 28542

Sir:

Enclosed is an analysis of moist brown flakes of scale removed from Boiler No. 16 at New River. This samples, as we discussed, contains 86.4 percent iron. Calcium was 0.9 percent. As you can see from this, the majority of the scale which is causing the overall problems at your entire power plant operation is iron. This iron is coming from improperly treated condensate systems, which is reflected in another analysis of a condensate line plugged with 86.1 percent iron. We need to immediately initiate a condensate return line treatment consisting of Dearborn B-212 and Dearborn Super Filmeen 14 for control of this iron and corrosion which we are receiving from the condensate systems. Once this problem is cleared up, we can better evaluate where any and all additional iron may be coming from.

The iron sample was found to be magnetic. Of course, we do not like to see magnetic iron in your boiler systems. We would like to see this problem identified as to where the magnetic iron is coming from.

We trust the above comments are identifiable as to the operations at your power stations. If any questions arise, or if we can be of any further service, please feel free to contact this office.

Sincerely,

DEARBORN AQUA-SERV

Rudy L. Pittman

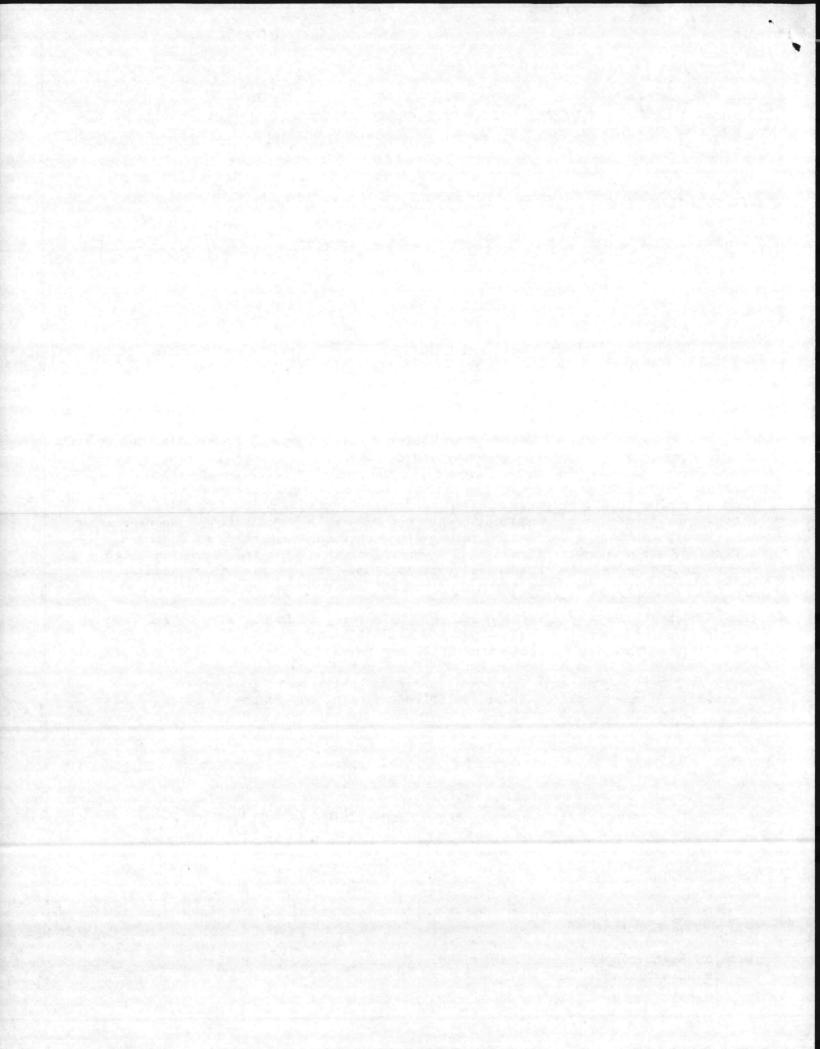
President

RLP/csb

**Enclosure** 

cc: Mr. Weatherington

Mr. Southerland



CU.S.)

## LABORATORIES CHOMOD CORPORATION

100 GENEREE STREET \* LAKE ZURICH, ILLINOIS 60047 TELEPHONE 312/433-8241

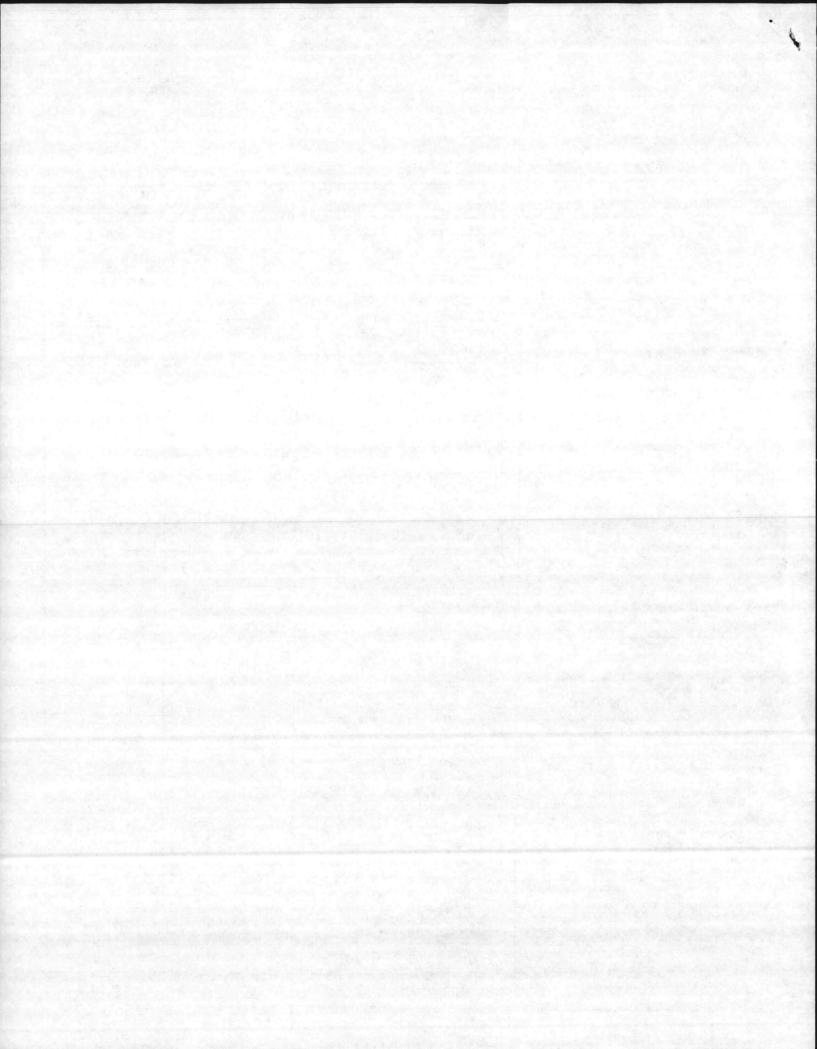
Сотралу	D.A.S. of Wilson	- Boule	
Location	Wilson, N.C.		Dica
Equipment in	which deposit was found	cleu	7000
	sample #1925		

Date collected 1/24/79

Date roo'd in 1:6

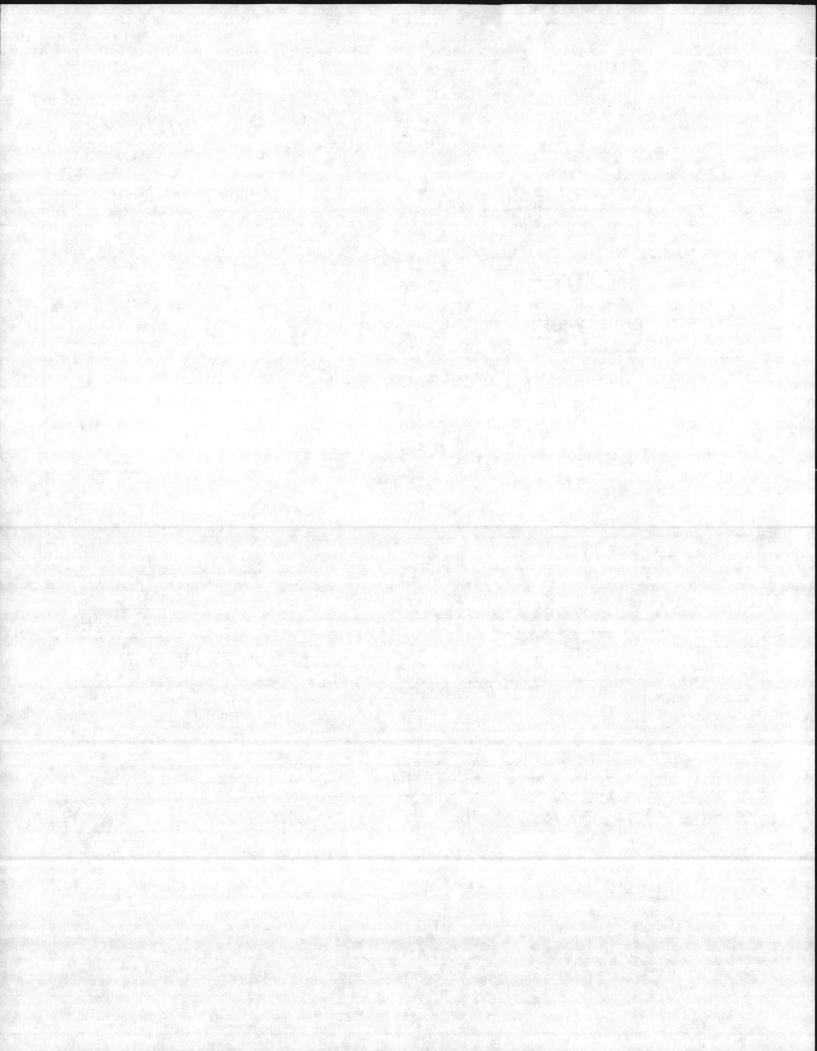
1/31/79

REP(	ORT OF DEPOS	IT ANALYSIS	PER-CENT	EQUIVALENTS
Date	2/6/79	ZINC as ZnO	None	100
aberatory no.	49000	COPPER os CuO	None	
Ref. Init.	TM/fh	NICKEL as NIO	None	
ig estati	Jones 32-001.	IRON as Fe <sub>2</sub> O <sub>3</sub>	86.4	3.30
		MANGANESE as MnO <sub>2</sub>	None	
ליאנטים מיפויל <sup>י</sup>	פסחברבפקסב לרוע צפר	CHROMIUM as Cr2O3	Mone	
moist brown flakes		VANADIUM ns V2O5	None	
		TITANIUM as TIO2	None	
		CALCIUM as CaO	0.9	0.01
Chloraform ext	ractable %	POTASSIUM as K20	None	
Description .	The qualitative test	CHLORIDE as CI	None	
	ndicate the presence	SULFATE 85 SO3	1.6	0.04
	material.	TOTAL PHOSPHATE and PHOSPHORUS as P2O5	0.5	0.01
		SILICA as SiO <sub>2</sub>	3.2	0.37
Re-ole This	analysis was performed on a	ALUMINUM as Al <sub>2</sub> O <sub>3</sub>	None	
sample smich Sa	ad been oven dried at 105°C.	MAGNESIUM as MyO	1.0	9.54
This sampl	e was found to be	SODIUM as Na <sub>2</sub> O	None	
ragmetic		STRONTIUM as SrO	None	
		CARBONATE as CO2	Nama	
		IGNITION LOSS Org., H2O, etc.)	None	
		UNDETERMINED	3,3	
Subscience of the subscience o	per-cent per-cent	TOTAL	3.1	

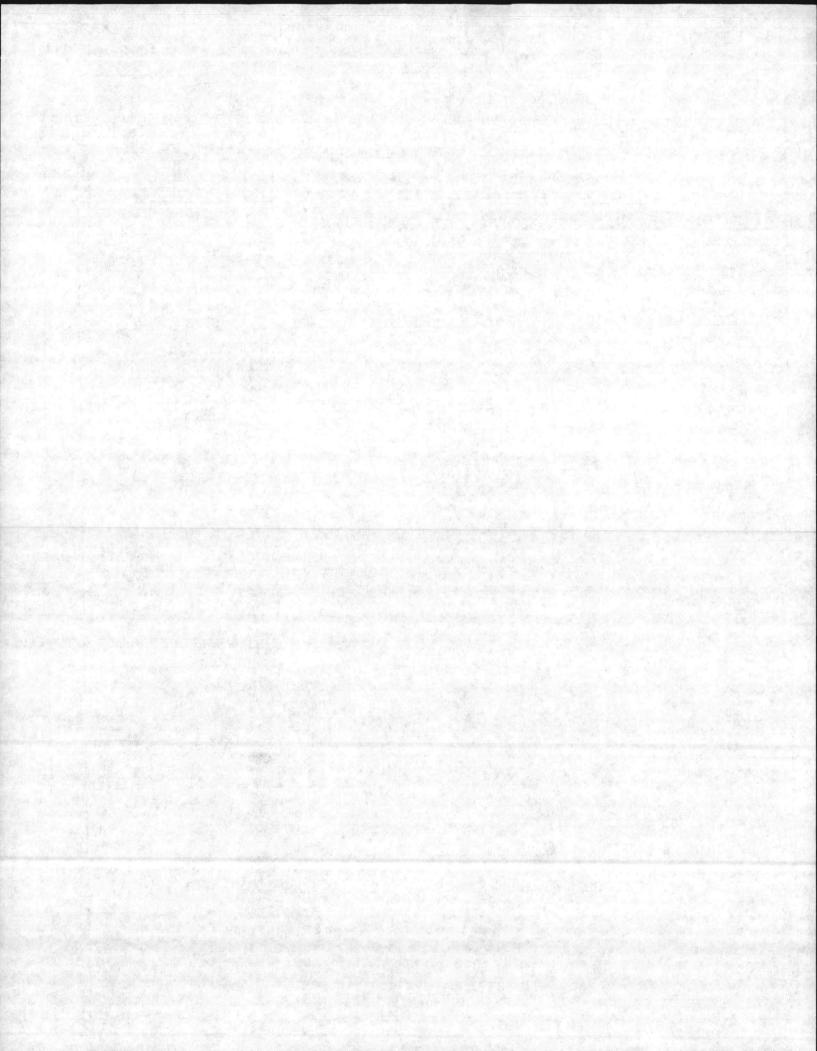


SPECTION REP	41 (3/67)					DATE OF INSPECT	ION
N 0105-LF-004-	CKS 2544				4		VOV 1978
All a proper through	A service of the service of			TYPE OF INSPE	NAI & F		
I. FROM	# 57.00			A EXTER	NAL B	WITH PRESSURE	TEST C TION
and the second					The graph of the con-	14.	
BASE 1	MAINT O	PFICE	R CAN	MP LEJEH	WE N.C.	EXPIRES 30	TUNE 1979
!. ТО						15. BOILER INSPECT	OR 1
Pana un s	NOANT H	Inter	map!	1- 1112	1000	don 1	1.11.
1000100		BOILER DA		VE CURP	COUELA	NAVY OR NA	TIONAL BOARD NO.
MANUFACTURER		DOILER DA	10	9 60 6		NAUFA	C 225
TRANE						16. REASON FOR NO	I ISSUING CERTIFICATE
PROPERTY NO.	5. MFG. SERIA	L NO.	6. MF	FG. MODEL NO.			
16	1073	35	mc	F2-51			
2 < 41 = 1	JO 7	,		PACITY			
FUEL (Check)	17/4	11. PRESSURI	E 40,	000 #1	IHR		
		DESIGNED	OPERA	TING TEST			
COAL X	OIL GAS	250		50 pei -	_ psi		
CATIONAL IND			13. TYPE	FIRE			
SATISFACTO	RY UNSATIS	FACTORY	TUBE	TUBE	C. I.		
EXPORT	1			18. COMBUSTION HAGAN 20. FLUE GAS TEN		. Name)	
EXPORT COMBUSTION	* CO-	* 5	2	HAGAN 20. FLUE GAS TEN	MPERATURE .		AT TRAP
EXPORT COMBUSTION	× CO <sub>2</sub>	* EX	CESS O <sub>2</sub>	HAGAN 20. FLUE GAS TEN AFTER BOILER	MPERATURE .	. Name) 	AT TRAP
EXPORT COMBUSTION	% CO <sub>2</sub>	% EX(	CESS O <sub>2</sub>	HAGAN 20. FLUE GAS TEN	MPERATURE .		AT TRAP
EXPORT COMBUSTION		* EXC	CESS O <sub>2</sub>	AFTER BOILER AFTER DEVICES FETY VALVES 22. NUM	MPERATURE .	F : AFTER HEA	AT TRAP
EXPORT OMBUSTION		% EX(	CESS O <sub>2</sub> A	AFTER BOILER FETY DEVICES FETY VALVES  22. NUM 2 -	BER AND SIZE		
EXPORT COMBUSTION  MANUFACTURER  ON SOLIC		* EX	CESS O <sub>2</sub> A	AFTER BOILER AFTER BOILER AFTER VELVES FETY VALVES 22. NUM 2 -	BER AND SIZE	F : AFTER HEA	24. CONDITION
EXPORT COMBUSTION  MANUFACTURER  ON SOLIC		% EX(	CESS O <sub>2</sub> A	AFTER BOILER AFTER	BER AND SIZE	23. PSI SETTING	24. CONDITION
EXPORT COMBUSTION  MANUFACTURER  ON SO/I C		* EX	CESS O <sub>2</sub> A	AFTER BOILER AFTER	BER AND SIZE	23. PSI SETTING	24. CONDITION G-00D
EXPORT COMBUSTION  MANUFACTURER  ON SOLIC		% EX(	CESS O <sub>2</sub> A SA	AFTER BOILER  AFTER BOILER  AFTER VALVES  22. NUM  2 -  PRESSURE G  WATER	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING	24. CONDITION G-00D
EXPORT  COMBUSTION  MANUFACTURER  ON SOLIC		% EXC	CESS O <sub>2</sub> A SA SA STEAM	AFTER BOILER AFTER	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI		24. CONDITION GOOD OTHERpsi
EXPORT  COMBUSTION  MANUFACTURER  AND SOLICE  MANUFACTURER  ASSON IF NOT	DET TESTED	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION GOOD OTHERpsi
EXPORT  COMBUSTION  MANUFACTURER  AND SOLICE  MANUFACTURER  ASSON IF NOT	DET TESTED	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION GOOD OTHERpsi
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MANUFACTURER  MANUFACTURER  PEASON IF NOT  ITEM  MANUFACTURER  TYPE  FUEL GRADE	PEABODY GUN & NOZ #6	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION GOOD OTHERpsi
MANUFACTURER  MANUFACTURER  MANUFACTURER  MEASON IF NOT  ITEM  MANUFACTURER  MANUFACTURER  MANUFACTURER  MANUFACTURER  MANUFACTURER	PEABODY GUN & NOZ #6	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION  GOOD  THERpsi
MANUFACTURER  MANUFACTURER  MANUFACTURER  ITEM  MANUFACTURER  YPE  FUEL GRADE	PEABODY GUN & NOZ #6	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION  GOOD  THERpsi
MANUFACTURER  MANUFACTURER  MANUFACTURER  ITEM  MANUFACTURER  VPE  VUEL GRADE	PEABODY GUN & NOZ #6	IN SER	CESS O <sub>2</sub> A SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION  GOOD  THERpsi
MANUFACTURER  MANUFACTURER  MANUFACTURER  ITEM  MANUFACTURER  YPE  FUEL GRADE	PEABODY GUN & NOZ #6	IN SER	SA SA STEAM I	AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER AFTER BOILER  PRETY VALVES  22. NUM  2 -  PRESSURE GA  26. CORR  WATER  IG EQUIPMENT	BER AND SIZE  2/2"  AUGE ECTIONS  LEG CONSTAI	23. PSI SETTING  165-170  NT	24. CONDITION  GOOD  THERpsi

# U. S. GOVERNMENT PRINTING OFFICE: 1974-505-704

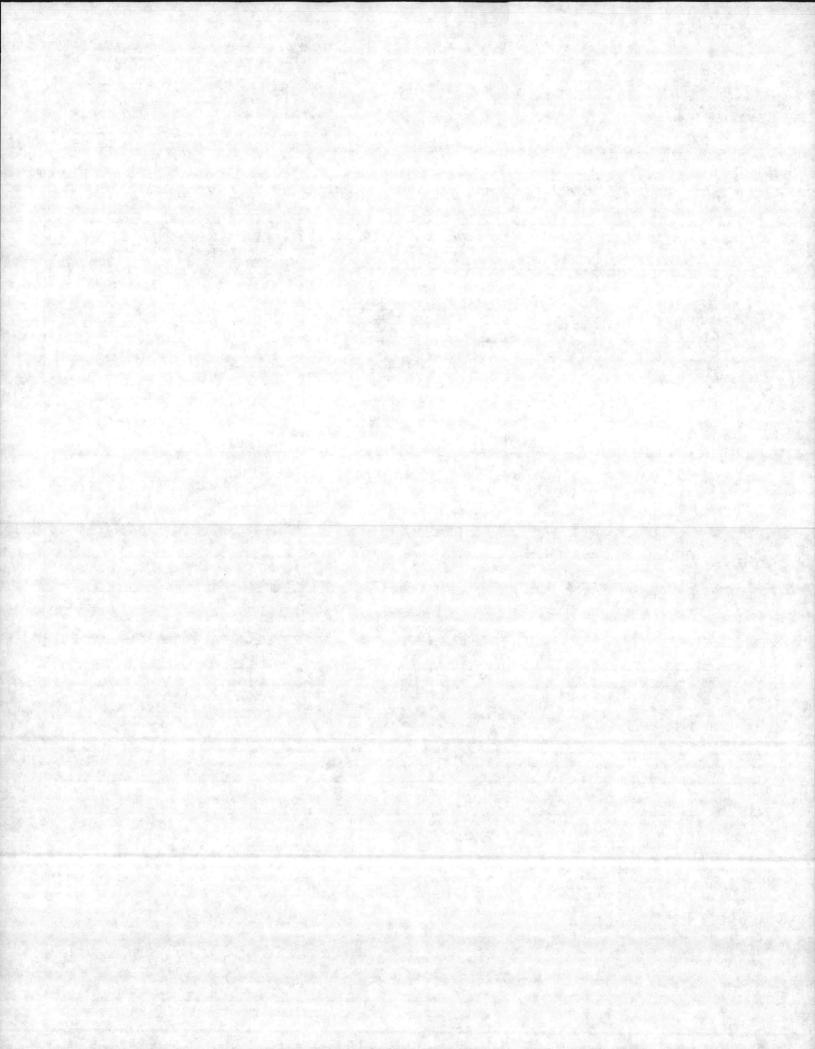


LOCATION BLDG NO.  MCAS AS 4151			BOILER NO.		DATE 29 NOV 78
SERIAL NO. 10735 MODE	NO.	N.B.		eng militar	A. Sura Salar
BURNER MFG. PEABODY ENGINE	E: MOQ.				
STEAM GAGE NAME: ASHCROFT PRESS. 3					
	24,448 CAP 23,785	NO. 2	_	SIZE	2/2"
NO. 1 FRONT SET 170		61	CLOSE	16	2
NO. 2 BALK SET 165	OPEN 1.7	2	CLOSE	17	0
NO. 3 NA SET -	OPEN -	- ICOMP	CLOSE	-	
CO2% //.O   02%	STACK 450	COMB.		PURGE TIME	95 SEC
NO. 1 FIREYE C/O OK			A/L	OK	
NO. 2 FIREYE C/O NA		A/L NA			
HI-STEAM TO C/O	ESET	170	A/L		
EXCESS STEAM 🗫. C/O 🗶 👂	ESTAT		A/L		
HI OIL TEMP. C/O OK			A/L	OK	81
HI OIL PRESS. C/O OK			A/L	~	
GO OIL TEMP. C/O OK			A/L	OK	
O OIL PRESS. C/O			A/L	i in ingener i The set fig.	
O ATOM AR/STEAM C/O OK			A/L	No	LIOHT
10. 1 LW C/O OK			A/L		
10. 2 LW C/0 OK			A/L (	OK	
O FURNACE DRAFT C/O OK			A/L	À	
O FIRE START C/O OK			A/L		A STATE OF THE STA
YPE OF FUEL #6 / YEAR 1976	The second secon		_		
BoilEN HS-3009 SF - WW	HS 550 SE				
EMARKS:				-	
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				74	11/1
	this calcinate makes as the carrier with an explanation and the carrier and ca	a patta nan di masangantani si san saman samahan saman saman saman saman sa		-	
	The state of the s		La Carlo		-



Supersedes NAVDOC				30 JUNE 1978
S/N 0105-LF-004-00	00	TYPE OF INSPECTIO		INTERNAL & EXTERNAL OPERA
1. FROM		1 EXTERNAL		WITH PRESSURE TEST C TIONA
BASE M.	AINT OFFICER CAMP.	LEJEUNE /	v.c.	CERTIFICATE ISSUED X YES 11  EXPINES 18 OCT 1978  15. BOILER INSPECTOR
Comman	DANT Holytes MAR	INE CORPS/	OPE IFF	Lesse L. Selles NAVY OR NATIONAL BOARD NO.
	BOILER DATA			NAUFAC 225
. MANUFACTURER		-		16. REASON FOR NOT ISSUING CERTIFICATE
PROPERTY NO.	5. MFG. SERIAL NO. 6.	MFG. MODEL NO.		
16	10735	nCF 2-51	7	
. BUILDING NO.	8. YEAR BUILT 9.	CAPACITY		
95 4151 O. FUEL (Check)	11. PRESSURE	0,000 #//	TR	
J. POZZ (Onces)		RATING TEST		
	OIL GAS 250 psi	150 pei 25	55 psi	
2. FEED WATER TREA	C WATE			
SATISFACTO	RY UNSATISFACTORY TUBE	TUBE	C. I.	
. COMBUSTION		AFTER BOILER_		*F : AFTER HEAT TRAP
	X CO <sub>2</sub>	SAFETY DEVICES		
	AND PROBLEMS AND THE PROPERTY OF THE PROPERTY AND THE PROPERTY OF THE PROPERTY	SAFETY VALVES		
. MANUFACTURER		1 22 MINARE	R AND SIZE	23. PSI SETTING 24. CONDITION
1.	1 - "	22. NUMBE	01/11	1/- 17-
CONSOLIC	DATED	2-	2/2"	165-175
	and a land of the manufacture and a series of the series o	2 M PRESSURE GAU	21/2" IGE	165-175
5. MANUFACTURER AShCR	STEAN OFT	2 M PRESSURE GAU	21/2" IGE	165-175
AShCR	STEAN OFT	2 M PRESSURE GAU	21/2" IGE	165-175 NONE
AShCR	STEAN OFT TESTED	2 M PRESSURE GAU	21/2" IGE	165-175
5. MANUFACTURER AShCR	STEAN OFT TESTED	2 - M PRESSURE GAU 26. CORREC WATER L	21/2" IGE	165-175
S. MANUFACTURER  ASA CRI  T. REASON IF NOT	STEAM  OFT  TESTED  IN SERVICE  FEABODY ENGINEER	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NONE pel; OTHER pel
ITEM	STEAN OFT TESTED	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pei; OTHER psi
THEM  TO THE	STEAM  OFT  TESTED  IN SERVICE  FEABODY ENGINEER	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pel; OTHER pel  ALTERNATE
5. MANUFACTURER  7. REASON IF NOT  ITEM  9. MANUFACTURER  9. TYPE  D. FUEL GRADE	STEAM  OFT  TESTED  IN SERVICE  FEABODY ENGINEER  GUNG NOZZE STEAM  446	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pel; OTHER pel  ALTERNATE
5. MANUFACTURER  1. Sh CR  7. REASON IF NOT	STEAM  OFT  TESTED  IN SERVICE  FEABODY ENGINEER  GUNG NOZZE STEAM  446	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pel; OTHER pel  ALTERNATE
5. MANUFACTURER  1. REASON IF NOT  ITEM  1. MANUFACTURER  1. TYPE  1. INSPECTOR'S COM	STEAM  OFT  TESTED  IN SERVICE  FEABODY ENGINEER  GUNG NOZZE STEAM  446	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pel; OTHER pel  ALTERNATE
TYPE  5. MANUFACTURER  1. REASON IF NOT  ITEM  9. MANUFACTURER  9. TYPE  1. INSPECTOR'S COM	STEAM  OFT  TESTED  FI  IN SERVICE  FEABODY ENGINEER  GUNE NOZZE STEAM  HE6  MENTS	M PRESSURE GAU 26. CORREC WATER L	2/2" IGE TIONS EG CONSTA	NT pei; OTHER psi

\* U. S. GOVERNMENT PRINTING OFFICE: 1974-605-704



INSPECTION REPORT NAVFAC 9-11014/41 (3 Supersedes NAVDOCKS	3/67)			DATE OF INSPECTIO	
S/N 0105-004-0000		TYPE OF INSPE	CTION	विशेष्ट विशेष	Thru. 18 Nov
		A INTER	NAL & B	INTERNAL & EXTER	RNAL C OPERA-
1. FROM				14.	PATHORAE
BASE MAIN	T. Officer Camp A	Lejeune 1	re.	CERTIFICATE IS	SUED X YES NO
Commudan	T HolyTES MARINE C	Bens Cade	177)	6.0. mo	bles
12	BOILER DATA				
. MANUFACTURER				NAU FAC	ISSUING CERTIFICATE
PROPERTY NO.	5. MFG. SERIAL NO. 6	MFG. MODEL NO.			
110	10735	10 5 7 - 5-1	NB		
NEW RIVER	8. YEAR BUILT 9.	1C/= 3 - 51			
4/5/ D. FUEL (Check)	1976 -	40,000 H/	NR.		
. POEL (Check)		ERATING TEST			
			<b>公司、支持和政治委员会</b>		
FEED WATER TREATME	ENT IS TYPE	150 psi 3	75 psi		
SATISFACTORY	UNSATISFACTORY WAT	ER FIRE TUBE			
			C. I.		
EXPORT		HAGAN 20. FLUE GAS TE	ABERATURE.		
. Composition		20. PLUE GAS TE	PERATURE		
× c	CO <sub>2</sub> % EXCESS O	AFTER BOILER		F : AFTER HEA	T TRAPF
	(T)	SAFETY DEVICES			
. MANUFACTURER		SAFETY VALVES	BER AND SIZE	23. PSI SETTING	24. CONDITION
Porsolidat	tad		21/2"	165-175	New - Good.
679.5677 0747	The state of the s	M PRESSURE G		165 113	New - Gitt.
MANUFACTURER		26 CORE	ECTIONS	160	
ASheroFT REASON IF NOT TES	TED	WATER	LEG CONSTAN	NTpsi; O'	TH ERpsi
ITEM	IN SERVICE	IRING EQUIPMENT			
Control of the Contro	IN SERVICE			ALTERNATE	
MANUFACTURER	Peabody Engineer.	ing Co.	No	ive	
TYPE G	Penbody Engineer	Atom.			
FUEL GRADE	# /		to a series		
INSPECTOR'S COMMEN	TS		Aug Zinger		
Good.		11 process	THE COLUMN TWO	BENEFIT TO THE STATE OF THE STA	
ATTACHMENT(S) (Check		33. SIGNATURE			
COPY OF INSPEC	TOR'S REPORT SPECIAL COMMENTS	R.W. K	100,00		
	The same of the sa			B	DIRECTION

PER

